

REPLY

Serial No. 09/973,862
Atty. Docket No. GP095-06.DV4

Amendments to the Claims

Claims 1-22 (Canceled)

23. (Currently Amended) An automated system for isolating and amplifying a target nucleic acid sequence which may be present in a fluid sample, wherein the system comprises:

a separation station constructed and arranged to separate a target nucleic acid containing the target sequence from other material present in the fluid sample;

an amplification station comprising one or more incubators, each of the incubators defining a temperature-controlled chamber constructed and arranged to receive a reaction receptacle containing the separated target nucleic acid and to incubate the contents of the reaction receptacle, to which one or more amplification reagents have been provided, for a period of time and under conditions sufficient to permit the target sequence to be amplified; and

one or more transport mechanisms constructed and arranged to transport the reaction receptacle between stations of the system.

24. (Previously Presented) The automated system of claim 23 further comprising an immobilization station comprising one or more incubators, each of the incubators of the immobilization station defining a temperature-controlled chamber constructed and arranged to receive the reaction receptacle and to incubate the contents of the reaction receptacle, to which a solid support material has been provided, for a period of time and under conditions sufficient to permit the target nucleic acid to be immobilized by the solid support material, wherein the separation station is constructed and arranged to separate the target nucleic acid from other material present in the fluid sample by a procedure which includes isolating the solid support material within the reaction receptacle and removing the fluid sample therefrom.

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25. (Withdrawn) The automated system of claim 24, wherein the immobilization and amplification stations have at least one common incubator.

26. (Previously Presented) The automated system of claim 24, wherein the immobilization and amplification stations do not have a common incubator.

27. (Previously Presented) The automated system of claim 24, wherein the incubators of the amplification station are maintained at a temperature or temperatures different than the temperature or temperatures maintained by the incubators of the immobilization station.

28. (Previously Presented) The automated system of claim 24, wherein the fluid sample is contained in a reaction receptacle present in the separation station, and wherein the separation station includes a fluid aspirator mechanism constructed and arranged to aspirate fluid sample from the reaction receptacle after isolating the solid support material.

29. (Previously Presented) The automated system of claim 28, wherein the separation station further comprises:

a fluid dispense mechanism constructed and arranged to provide a wash buffer to the reaction receptacle after removing the fluid sample from the reaction receptacle; and

a mixing device constructed and arranged to agitate the reaction receptacle to resuspend the solid support material after the wash buffer has been provided by the fluid dispense mechanism.

30. (Previously Presented) The automated system of claim 24 further comprising a hybridization station comprising one or more incubators, each of the incubators of the hybridization station defining a temperature-controlled chamber constructed and arranged to receive the reaction receptacle and to incubate the contents of the reaction receptacle, to which one or more

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probe reagents have been provided, for a period of time and under conditions sufficient to permit the probe to hybridize to the target sequence or an amplicon thereof.

31. (Withdrawn) The automated system of claim 30, wherein the amplification and hybridization stations have at least one common incubator.

32. (Previously Presented) The automated system of claim 30, wherein the amplification and hybridization stations do not have a common incubator.

33. (Previously Presented) The automated system of claim 30 further comprising a detection station constructed and arranged to detect the presence or absence of the probe hybridized to the target sequence, or an amplicon thereof, as an indication of the presence or absence of an organism or virus or one or more members of a group of organisms or viruses in the fluid sample.

34. (Previously Presented) The automated system of claim 33 further comprising a deactivation station constructed and arranged to deactivate the nucleic acid contents of the reaction receptacle after permitting the target sequence, if any, to be amplified.

35. (Previously Presented) The automated system of claim 33, wherein the stations are contained within a housing.

36. (Previously Presented) The automated system of claim 35, wherein the housing defines a self-contained, stand alone analyzer unit.

37. (Previously Presented) The automated system of claim 36, wherein the analyzer unit is movable.

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38. (Previously Presented) The automated system of claim 23 further comprising a holding station for holding a plurality of reaction receptacles.

39. (Previously Presented) The automated system of claim 23, wherein the separation station comprises magnetic elements for subjecting the fluid sample to a magnetic field.

40. (Previously Presented) The automated system of claim 23 further comprising a hybridization station comprising one or more incubators, each of the incubators of the hybridization station defining a temperature-controlled chamber constructed and arranged to receive the reaction receptacle and to incubate the contents of the reaction receptacle, to which one or more probe reagents have been provided, for a period of time and under conditions sufficient to permit the probe to hybridize to the target sequence or an amplicon thereof.

41. (Withdrawn) The automated system of claim 40, wherein the amplification and hybridization stations have a common incubator.

42. (Previously Presented) The automated system of claim 40, wherein the amplification and hybridization stations do not have a common incubator.

43. (Previously Presented) The automated system of claim 40 further comprising a detection station constructed and arranged to detect the presence or absence of the probe hybridized to the target sequence, or an amplicon thereof, as an indication of the presence or absence of an organism or virus or one or more members of a group of organisms or viruses in the fluid sample.

44. (Previously Presented) The automated system of claim 43, wherein the detection station comprises a luminometer constructed and arranged to detect the amount of light emitted by the contents of the reaction receptacle.

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45. (Previously Presented) The automated system of claim 43 further comprising a deactivation station constructed and arranged to deactivate the nucleic acid contents of the reaction receptacle after permitting the target sequence, if any, to be amplified.

46. (Previously Presented) The automated system of claim 43, wherein the stations are contained within a housing.

47. (Previously Presented) The automated system of claim 46, wherein the housing defines a self-contained, stand alone analyzer unit.

48. (Previously Presented) The automated system of claim 47, wherein the analyzer unit is movable.

49. (Previously Presented) The automated system of claim 23 further comprising a temperature ramping station constructed and arranged to raise or lower the temperature of the contents of the reaction receptacle prior to transporting the reaction receptacle to the amplification station.

50. (Previously Presented) The automated system of claim 23 further comprising a fluid dispensing station constructed and arranged to dispense the fluid sample into the reaction receptacle.

51. (Previously Presented) The automated system of claim 23 further comprising a deactivation station constructed and arranged to deactivate the nucleic acid contents of the reaction receptacle after permitting the target sequence, if any, to be amplified.

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52. (Previously Presented) The automated system of claim 23, wherein the stations are contained within a housing.

53. (Previously Presented) The automated system of claim 52, wherein the housing defines a self-contained, stand alone analyzer unit.

54. (Previously Presented) The automated system of claim 53, wherein the analyzer unit is movable.

55. (Previously Presented) The automated system of claim 23, wherein the material includes nucleic acids other than the target nucleic acid.

56. (Previously Presented) The automated system of claim 23, wherein the reaction receptacle comprises a plurality of receptacle vessels which are formed as an integral array.